

H. Whipple Pug Mill.

No 8,001.

Patented Mar. 25, 1851.

Fig. 1.

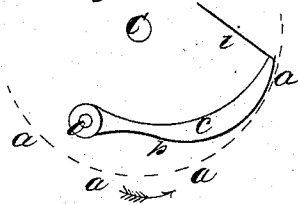


Fig. 2.

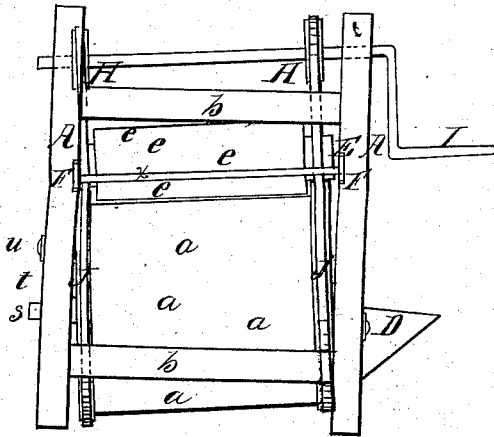


Fig. 3.

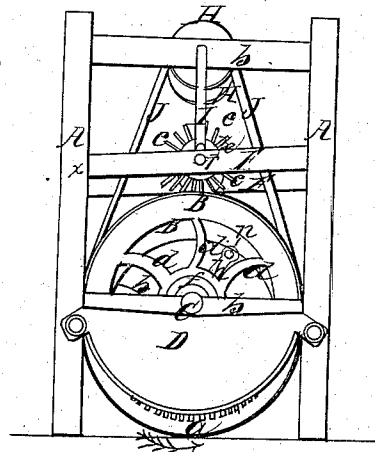


Fig. 4.

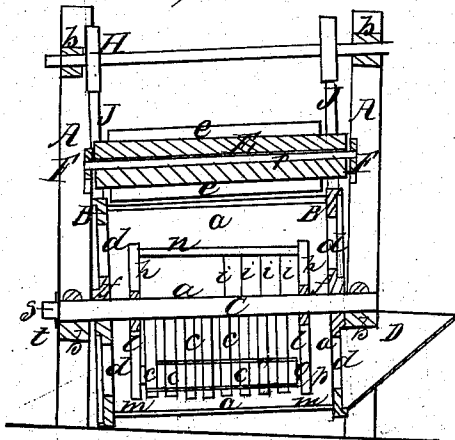
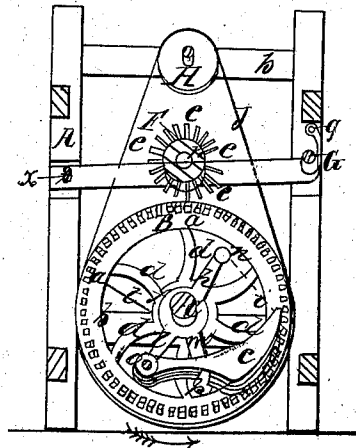


Fig. 5.



UNITED STATES PATENT OFFICE.

HEMAN WHIPPLE, OF PORT RICHMOND, NEW YORK.

MACHINE FOR PREPARING CLAY FOR MAKING BRICK.

Specification of Letters Patent No. 8,001, dated March 25, 1851.

To all whom it may concern:

Be it known that I, HEMAN WHIPPLE, of Port Richmond, in the county of Richmond and State of New York, have invented new and useful Improvements in the Machine for Tempering or Preparing Clay for Making Bricks; and I do hereby declare that the following is a full, clear, and exact description of same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a diagram illustrating the pulverizing or crushing action. Fig. 2 is a side elevation of the machine. Fig. 3, is a front or end elevation. Fig. 4, is a longitudinal section. Fig. 5, is a transverse section.

The same letters of reference denote similar parts throughout each of the several figures.

The nature of my invention consists in the use of a revolving screen working on a stationary axis set at a slight inclination from a horizontal position, and having attached to, or suspended from it, lugs or crushers, which by their weight, serve to pulverize the clay, the stock or clay being fed in at one end of the screen, which by its revolving motion, carries or drags the stock under the lugs or crushers, thereby breaking and pounding it, the pulverized clay falling through the apertures of the screen, and the waste or hard lumps and stones mixed up with the stock being expelled at the back or lower end of the screen.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A, A, are uprights having cross or tie pieces *b, b, b, b*, which constitute the framing of the machine, or any similar suitable form of framing may be adopted. *a, a, a, a*, are the bars forming the screen, they may be placed at any required distance apart, and are bound, or secured, in a cylindrical form, by hoops B, B, into notches in which the ends of the bars *a, a, a, a*, may fit or be otherwise attached; to the hoops B, B, are arms *d, d, d, d*, connected with naves *f, f*, which form the rotating bearings of the screen; the bars *a, a, a, a*, should be of such a shape in their cross section and so arranged as that any particles once entering the spaces, from within, between them, will readily pass off, that is, they should be

broadier on their interior, than their exterior edges thus making the outside width of the spaces greater than the inside, as is the case with many descriptions of fire grates now in use and for which purpose bars of a triangular, half round or any appropriate shape may be used, their narrowest, or curved face or side, being set outside; or the screen may be made of a cylinder having slots or openings corresponding to spaces formed by the bars *a, a, a, a*. C, is the stationary axis on which the naves *f, f*, of the screen rotate, it rests on the lower cross pieces *b, b*, and is kept, or prevented, from turning, by its back end *s*, being made square, and an arm *t*, being fitted on to it, the other end of the arm *t*, being fastened to one of the uprights A, by a screw *u*, (Fig. 2) or any other simple and well known arrangement may be used for keeping the axis C, stationary, which is set, as will be seen, by reference to the drawings at a slight inclination from the horizontal position, for the purpose of giving the screen a corresponding position, or a dip at its back end. D, is a feed hopper or trough which also is stationary. To the axis C, are keyed or otherwise secured arms *h, h, l, l, m, m*, seen more particularly in Figs. 4 and 5.

n, is a cross bar connecting the arms *h, h*.

o, is a bar connecting similar arms *l, l*, and *p*, a rod connecting the arms *m, m*.

c, c, c, c, c, are lugs or crushers having their fulcrum or working as a hinge joint, on the rod *o*, and at their other extremity attached by cords or chains *i, i, i, i*, to the bar *n*, and resting on at their lower edge, or supported, by, the rod *p*.

Either arrangement of the arms *h, h*, cords or chains *i, i, i, i*, or cross bar *p*, and arms *m, m*, may be used for supporting or holding the lugs from touching, or rubbing, the screen, or both arrangements, as shown, and described, in combination, may be used. The lugs or crushers *c, c, c, c, c*, may be made of any material, size shape and weight. *e, e, e, e*, are pickers, arranged in a radial form round a small drum E, keyed to an axis *r*, working at either end in side levers or pieces F, F, the pickers *e, e, e, e*, are of nearly the same length as the bars *a, a, a, a*, of the screen and are of proper thickness and width apart to drop into the spaces between the bars *a a a a*.

The side levers F, F, are hung on a rod *x*, forming a joint on which to work, and their

other end connected by a bar G, which is held by a catch or hook *g*, (Fig. 5,) H, H, are pulleys being driven by a handle I, attached to their shaft or axis. The pulleys 5 H, H, serve to drive the screen by straps J, J, which pass around them and the hoops B, B.

I will now proceed further to describe the operation. The stock or rough clay is fed 10 by the hopper D, into the screen formed of bars *a, a, a, a*, entering under the lugs *c, c, c, c*, and by the revolving motion of the screen in the direction shown by arrow. Figs. 1, 3 and 5, the stock is carried under 15 the lugs *c, c, c, c, c*, which yield or give, working on their joint *o*, and so produce a pressure by their weight, on the clay, which serves to clear the stock, the fine and work- 20 able portion, being pulverized, and passing through the spaces between the bars *a, a, a, a*; and the waste, or hard lumps and stones, mixed up in the stock, being worked out of the back end of the screen, the in- 25 clination of which downward, and the revolving motion of the screen, serving to expel the same. The object of the rod *p*, or cords *i, i, i, i*, is to prevent the lugs from rubbing the screen which would create un- 30 necessary friction. The several lugs or crushers may be made of different sizes shapes or weights, those at the mouth of the screen if desirable made so as to merely break the stock and the after crushers or 35 lugs to pulverize the finer clay which is collected under the screen formed by the

bars *a, a, a, a*, and is thus tempered or prepared for making bricks.

The pickers *e, e, e, e*, may be thrown in or out of gear with the bars *a, a, a, a*, by lower- 40 ing or raising the side levers F, F, working as a hinge joint on the rod *x*. By unfastening the hook *g*, Fig. 5, the pickers *e, e, e, e*, are thrown in gear entering the spaces of the bars *a, a, a, a*, which as the screen ro- 45 tates, drives or causes to rotate also the pickers *e, e, e, e*, which pick out or clear the screen of any soft clay or dirt which may clog the spaces between the bars *a, a, a, a*. By the hook *g*, the picker is thrown in or 50 out of gear and used only as required.

What I claim as my invention and desire to secure by Letters Patent is—

The use of a revolving screen constructed of bars *a, a, a, a*, set at a slight inclination from the horizontal position, having lugs 55 or crushers *c, c, c, c, c*, within it, each lug being hung or suspended, at one end, on a bar *o*, and prevented from touching or rubbing the screen, by cord or chain *i*, attached to its other extremity, and rod *p*, support- 60 ing it, or constructed and operating in any manner substantially the same, and for the purpose herein set forth.

In testimony whereof I have hereunto signed my name in presence of two subscrib- 65 ing witnesses.

HEMAN WHIPPLE.

Witnesses:

O. D. MUNN,
PATRICK MEEHAN.